2018 Application for Section 205(j) Water Quality Planning Grant

Division of Water Resources
North Carolina Department of Environmental Quality

1. Basic Information			
Project Title:	Carolina Beach Nine Minimum Element Watershed Restoration Plan		
Project start date:	February 15, 2019	**Project end date:**	December 31, 2019

Project Abstract:

The Town of Carolina Beach, the Cape Fear Council of Governments, and North Carolina Coastal Federation recognize the importance of maintaining healthy waters and restoring impaired water quality in the region. A portion of the Town of Carolina Beach sub-watersheds drain to the Lower Cape Fear River, which are identified as impaired waters- AU: 18(71(b)). Although these waters are currently classified as SC waters, this classification is inconsistent with current and historic documented uses of swimming, fishing, and wading (SB). As such, these impaired waters do not meet their designated use as shellfish growing areas and are impaired by bacteria. As the natural hydrology of the area has been altered by development, there has been an increase in stormwater runoff, which is the primary transportation mechanism of bacteria and other pollutants to the area's waters resulting in impairments.

The goal of this project is to voluntarily develop a Nine Minimum Elements watershed restoration plan for the Town of Carolina Beach sub-watersheds. The plan will focus on stormwater runoff volume reduction goals and management strategies that replicate pre-impairment water quality conditions. This plan will highlight water quality impairments in the watersheds and propose strategies to reduce the volume of stormwater runoff to improve water quality. Having a plan better positions the Town to be considered for grant funding for stormwater reduction projects. The Town has been consulting with the North Carolina Coastal Federation through their collaborative watershed analysis project with the University of North Carolina Wilmington (UNCW), which promotes aligning spatial watershed analysis needs of local governments with university students with geospatial skills. This informal collaboration provides local governments with watershed research and provides students with the opportunity to apply their research to "real" projects. With mentorship by the North Carolina Coastal Federation, students will conduct preliminary geospatial characterization of natural and physical characteristics of the Carolina Beach watersheds. The partners seek to advance this partnership and mentorship and use existing and continued watershed characterization research in the development of a watershed restoration plan. This proposed project will provide resources to allow the students and consultant to fully prepare a plan in partnership with the Cape Fear Council of Governments, North Carolina Coastal Federation, and the Town of Carolina Beach.

205(j) Grant Funds Requested	***$15,271***
Match (optional, recommended)	***$7,630***
Total Project Cost	***$22,901***

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2a. Primary Contact or Project Manager: ***A one-page Statement of Qualifications must be provided in Section 4 of the application form to confirm that anyone designing, installing, or monitoring the proposed project is qualified to do so.***					
Name	Allen Serkin, AICP, CZO				
Title	Local Government Services Director				
Organization Name	Cape Fear Council of Governments				
Mailing Address	1480 Harbour Dr				
City	Wilmington	***State***	NC	***ZIP***	28401
Email Address	aserkin@capefearcog.org				
Telephone	(910) 395-4553		***FAX No.***		(910) 395-2684

2b. Administrative Address: ***Address where contract will be mailed for signature.***					
Name	Allen Serkin, AICP, CZO				
Title	Local Government Services Director				
Organization Name	Cape Fear Council of Governments				
Mailing Address	1480 Harbour Dr				
City	Wilmington	***State***	NC	***ZIP***	28401
Email Address	aserkin@capefearcog.org				
Telephone	(910) 395-4553		***FAX No.***		(910) 395-2684
Federal Tax ID Number	56-0949863				

2c. Payment Address: ***Address where invoice payments will be mailed.***					
Name	Dawn Tucker				
Title	Finance Director				
Organization Name	Cape Fear Council of Governments				
Mailing Address	1480 Harbour Dr				
City	Wilmington	***State***	NC	***ZIP***	28401
Email Address	dtucker@capefearcog.org				
Telephone	(910) 395-4553		***FAX No.***		(910) 395-2684

3. Statement of Qualifications for project manager and primary partners
Please include qualifications of people, not organizations. Do not copy and paste entire CVs. Briefly describe relevant experience, noting any relevant 205(j) grant funded projects.

The proposed project will be completed through a partnership between the Cape Fear Council of Governments, the North Carolina Coastal Federation and the Town of Carolina Beach, NC. Listed below are key staff members from each entity, who will work on the project.

Allen Serkin, Cape Fear Council of Governments
Allen is currently the Local Government Services Director for the Cape Fear Council of Governments (CFCOG). Allen manages the planning activities of the CFCOG, develops long-range plans and land development ordinances, provides training and consultation to local planning and zoning boards and staff, and performs many advanced mapping and geographic analysis tasks. Allen also directs the Cape Fear Rural Transportation Planning Organization. With over 10 years of experience in land use planning, transportation planning, zoning and GIS analysis, he spent the bulk of his career as a Planning Director and Town Planner for Brunswick County municipalities before joining the CFCOG. Previously, Allen worked for a private planning consulting firm preparing comprehensive plans, transportation plans, and park & recreation plans and for a UNC research institute doing advanced geographic analysis. Allen holds a Master of Regional Planning from UNC Chapel Hill and a Post-Baccalaureate Certificate in Environmental Studies from UNC-Wilmington. He is a member of the American Institute of Certified Planners and a Certified Zoning Official in North Carolina and he serves on several North Carolina Department of Transportation (NCDOT) committees.

Lauren Kolodij, Deputy Director, North Carolina Coastal Federation
Lauren heads up the North Carolina Coastal Federation's Low Impact Development stakeholder outreach efforts. In addition, she coordinates many of the Coastal Federation's conferences, coastal issue meetings and collaborative projects. Mrs. Kolodij serves as liaison to the organization's board of directors. Working with the Executive Director, her primary responsibility is to ensure implementation of the Coastal Federation's Program goals and objectives. She holds a BS in environmental Conservation from N.C. State University. She has worked for the Federation since 1992. Mrs. Kolodij is currently working on a 205(j) watershed restoration plan project with ECC and the Town of Beaufort (FY 2016).

Tracy Skrabal, Southeast Regional Manager/Coastal Scientist, North Carolina Coastal Federation
Tracy joined the Federation in 1996 and leads our regional office in Wilmington. She holds a master's degree in marine science and a Bachelor of Science in geology from the College of William and Mary. Tracy has designed, coordinated and implemented numerous LID projects within the southeast region, and has been involved in the development of several regional Watershed Restoration Plans, including those for the Lockwoods Folly, Bradley/Hewletts Creek, and Stump Sound watersheds. Tracy managed the completion of the Lower Cape Fear Watershed Blueprint, which identified Carolina Beach as a high priority location for the development of a watershed restoration plan.

Mariko Polk, GIS Watershed Specialist, North Carolina Coastal Federation
Mariko graduated from the University of North Carolina Wilmington with a MS in Environmental Studies concentrating in Coastal Management (2015). She specializes in Geographic Information Systems (GIS) application, especially its usage in coastal conservation and environmental research. She has over six years of GIS experience in academia and professionally. Mrs. Polk has been working with the North Carolina Coastal Federation for nearly 2 years on volume-based reduction watershed planning. Mrs. Polk is currently working on a 205(j) watershed restoration plan project with ECC and the Town of Beaufort (FY 2016).

Ed Parvin, Asst.Town Manager, Director of Planning and Development, Town of Carolina Beach
Ed directly manages all Planning and Development functions, and serves as project manager for various Town projects. Ed is responsible for all stormwater projects, and infrastructure re-development for the Town. Ed developed the stormwater management code to comply with Phase II state standards, and manages code compliance permitting.

Miles Murphy, Planner, Town of Carolina Beach
Miles is responsible for all general permitting, CAMA applications, ordinance additions/revisions, and zoning reviews in the Town of Carolina Beach. Miles graduated in 2015 from UNCW with a Masters degree in Ocean and Coastal Policy.

Gigi Baggarley, GIS Administrator, Town of Carolina Beach
Gigi oversees mapping and GIS needs for the Town, including drainage basin mapping (ARC-Hydro). She has expertise in watershed analysis using GIS and remote sending, flood depth and velocity analysis using HEC-HMS and HEC-RAS, radar and high resolution satellite imagery. Gigi has a BA in Geology from UNCW (2008), a Graduate Certificate in GIS from UNCW (2012) and an MSC in Geoscience from UNCW (2014)

4. Project Partner Information:
If further space is needed to adequately describe partners' role/contribution to project, please include in the Statement of Qualifications section.

Agency Name	Cape Fear Council of Governments		
Agency Address	1480 Harbour Dr, Wilmington, NC 28401		
Role/contribution to Project	Project Coordination, Liaison with Town of Carolina Beach, Technical Assistance		
Contact Person	Allen Serkin, AICP, CZO Local Govt. Services Director	*Phone No.*	(910)395-4553
E-mail address	aserkin@capefearcog.org		
Agency Name	Town of Carolina Beach		
Agency Address	1121 N Lake Park Blvd, Carolina Beach, NC 28428		
Role/contribution to Project	Project location lead, technical assistance, outreach coordination with Town of Carolina Beach		
Contact Person	Ed Parvin, Asst. Town Manager, Director of Planning and Development	*Phone No.*	(910) 458-2986
E-mail address	ed.parvin@carolinabeach.org		
Agency Name	North Carolina Coastal Federation		
Agency Address	3609 Hwy 24, Newport, NC 28570		
Role/contribution to Project	Facilitation, technical assistance outreach planning and implementation		
Contact Person	Tracy Skrabal, Southeast Regional Manager, Coastal Scientist	*Phone No.*	910-509-2838
E-mail address	tracys@nccoast.org		
Agency Name			
Agency Address			
Role/contribution to Project			
Contact Person		*Phone No.*	
E-mail address			

5. General Goal of the Project (per the Clean Water Act Section 604(b)/205(j) grant purpose)			
Identify most cost effective and locally acceptable facility and nonpoint source measure to meet and maintain water quality standards	Develop implementation plan to obtain state and local financial and regulatory commitments to implement measures identified	Determine the nature, extent, and cause of water quality problems in various areas of the state	Other—please specify water quality planning purpose
X	**X**	**X**	

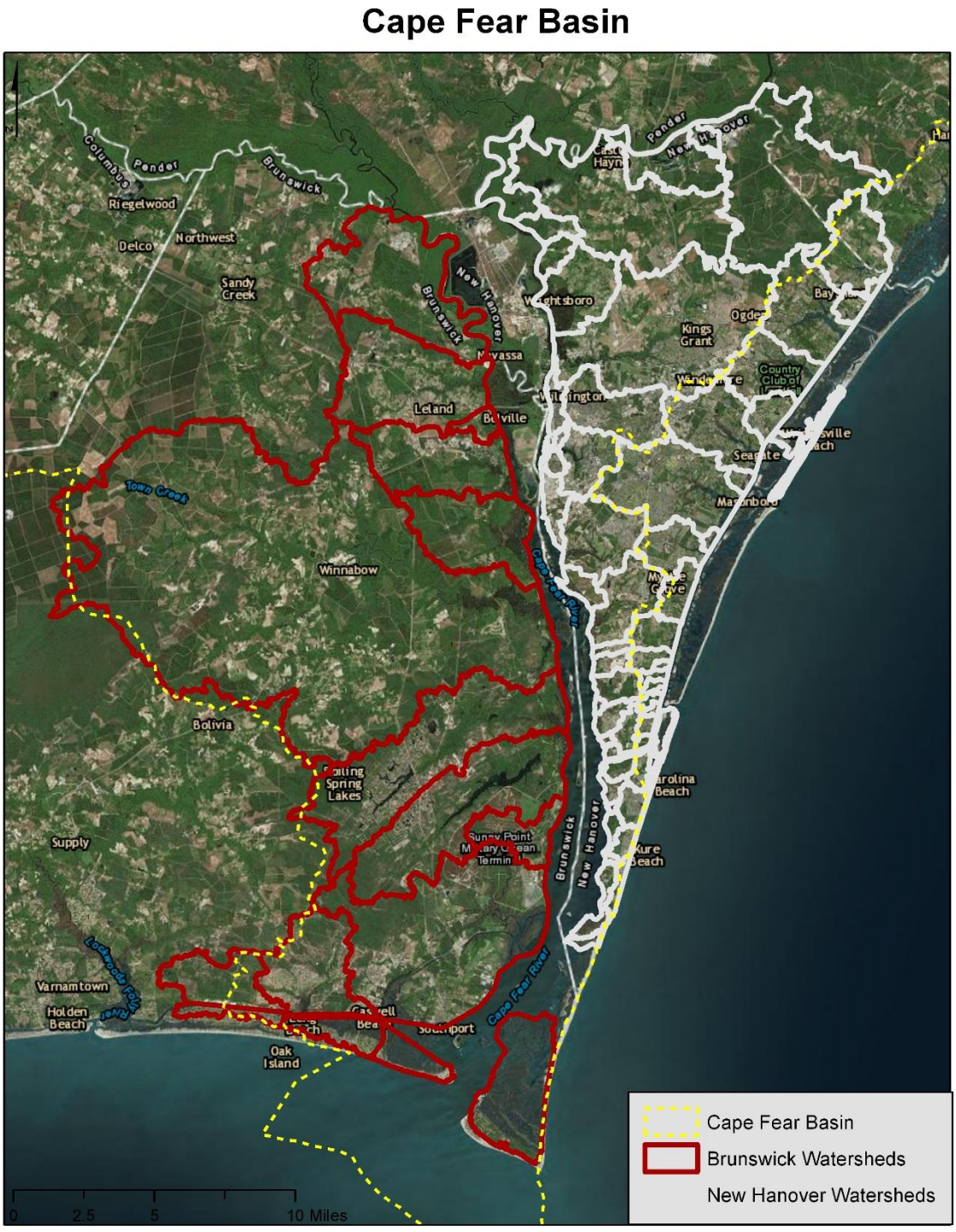
6. Project Area	
Results Site-Specific, Regional, or Statewide?	Site Specific: Town of Carolina Beach
River Basin	Cape Fear River Basin (Lower Cape Fear River Subbasin)
Need identified in Basin Plan? (Y/N; note plan name, date, pg#)	2005 Cape Fear River Basinwide Water Quality Plan pages Pages 114, 116, 125, 187, 239
Watershed name	Carolina Beach Watersheds in Lower Cape Fear River Subbasin
Watershed size	1,062 square miles (Lower Cape Fear River Subbasin)
(For site-specific projects only) 12 digit USGS HUC(s)	12-digit HUC names:03020302: 030203020501 03030005: 030300050704
County	New Hanover

7. Project Milestone Schedule

If anticipating starting project in second quarter, can leave first quarter blank. Please note anticipated dollar amount, percent of grant spent that quarter, and cumulative percent of grant spent for project. Quarterly invoices will only be reimbursed up to percent indicated. Unused funds will carry forward to next quarter. Note that 10% of grant will be held until receipt of Final Project Report.

Quarter	Activities or outputs to be accomplished	Anticipated $ amount / % of funding spent / cumulative % spent
First Quarter Jan-Mar 2019	• Assemble project team and conduct meeting (including the Town of Carolina Beach, Cape Fear Council of Governments, North Carolina Coastal Federation, UNCW) • Collect field information to note areas of significant flushing or transportation of stormwater, areas of ponding/standing water • Complete and finalize preliminary Watershed Characterization analysis conducted by UNCW students. Ensure quality and thoroughness of physical and natural features of the watershed, land use characteristics, water quality characteristics, and source assessment • Submit quarterly report	$4,582; 30%
Second Quarter Apr-June 2019	• Technical writing of draft of Watershed Restoration Plan • Determine Education and Outreach (E/O) plans • Assemble project team to develop the Goals, Objectives, and Actions of the restoration plan • Submit quarterly report	$4,581, 30% $9,163, 60% cumulative
Third Quarter Jul - Sept 2019	• Conduct initial field assessment of suitable sites with the project team • Analyze watersheds to determine most suitable sites for future projects based on spatial data • Project team meets to review plan and assess potential retrofit projects based on criteria • Technical writing of draft of Watershed Restoration Plan • Submit quarterly report	$4,581, 30% $13,744, 90% cumulative
Fourth Quarter Oct - Dec 2019	• Finalize technical writing of draft of Restoration Plan • Assemble project team to discuss the draft Plan • Final review and adoption of Plan • Submit Final Project Report	$1,527, 10% $15,271, 100% cumulative
Fifth Quarter Jan - Mar 2020	Final report complete, no activities	
Sixth Quarter Apr - Jun 2020	Final report complete, no activities	

8. Map of project area: *Please copy map into document as a small image file.*



9. Detailed description of the project
(Note: if developing a Watershed Restoration Plan, please also complete section 16)

Increased development within the Carolina Beach watersheds has altered the natural hydrology of the landscape. Instead of rainfall infiltrating into the ground, stormwater runoff now flows over impervious surfaces and into surface waters. As runoff is conveyed across the landscape, bacteria and other pollutants are transported to waterbodies. Rather than attempting to eliminate or treat sources of nonpoint source pollutants, this plan will use approaches developed by the North Carolina Coastal Federation to reduce the overall volume of stormwater runoff and limit the conveyance of stormwater from the landscape into coastal waters. This approach has received support from the N. C. Division of Energy, Mineral, and Land Resources as an effective strategy for controlling stormwater runoff. This methodology is detailed in the Watershed Restoration Planning Guidebook, which uses GIS and the Watershed EZ Tool developed by the Federation and engineering firm WithersRavenel that is based on USDA TR-55 methods for calculating runoff curves and volume capture. The stormwater runoff management strategies suggested in the guidebook feature cost-effective targeted strategies that promote infiltration and reducing the volume of runoff. The Coastal Federation has successfully implemented this method on multiple watershed plans, including: Swansboro watersheds (leading to a successful FY2017 319 grant application acceptance), Beaufort watersheds, White Oak, Lockwood Folly, Pine Knoll Shores and Bradley and Hewletts Creek watersheds. The Bradley/Hewletts Creek plan has resulted in projects that have resulted in a reduction of stormwater volume by 50- 90 percent at retrofit sites (Mallin et al., 2016). The project team will develop a Restoration Plan for the Town of Carolina Beach that uses stormwater runoff volume management to address water quality and quantity issues. Additionally, GIS analysis will be performed and used to determine preliminary site suitability for determining locations for targeted restoration projects. The stormwater mapping data developed during the preparation of the Lower Cape Fear Restoration Blueprint will be used as an analysis element when determining preliminary site suitability mapping of potential retrofit sites, developing a new and novel approach to utilizing stormwater mapping data that is often mapped by COGs.

This project includes the following elements:

1. **Assemble project team to develop the restoration plan.** The project team that includes the Cape Fear Council of Governments (CFCOG), the Town of Carolina Beach (TOCB), North Carolina Coastal Federation, UNCW and additional representatives within the region will provide guidance and knowledge to the technical writers and GIS watershed specialist. The project team will determine the specific objectives and actions of the plan. The project team will meet regularly to ensure the plan fulfills expectations. Roles and responsibilities for project partners include:
    - **Cape Fear Council of Governments:** Lead project partner; Government liaison with Town of Carolina Beach on project; Staff GIS support, Assistance in outreach and education during plan development and after plan adoption; Assistance in identification of funding options for plan implementation.
    - **Town of Carolina Beach:** Planning Department staff support for all aspects of plan development; TOCB liaison with elected officials and residents for plan adoption and support for implementation (through outreach and education); Assistance in identification of funding options for plan implementation.
    - **North Carolina Coastal Federation:** Lead partner in plan development; Liaison with UNCW on research and development; Assistance in outreach and education during plan development and after plan adoption; Assistance in identification of funding options for plan implementation.

2. **Conduct field audit**. The project team will conduct a field audit based on the information compiled through geospatial research of the region to develop a preliminary potential retrofit site list that can be used in future retrofit project application opportunities. Additionally, the project team will be charged with annotating areas of interest within the watersheds with regard to stormwater management.

3. **Characterize the watershed.** Watershed features and unique characteristics will be researched and analyzed to better understand past and present issues that impact water quality as part of plan development.

4. **Conduct geospatial analysis**. UNCW students and researchers (with technical support from CFCOG, TOCB, and Coastal Federation) will use GIS technology to conduct an analysis of the watersheds. GIS will be used to aid in the identification of potential point and non-point sources of pollution and identify the location of current and potential monitoring stations. Most significantly, GIS will be used to conduct land use analysis to determine the stormwater runoff volume reduction goals and preliminary site suitability map. Stormwater mapping data developed for the Lower Cape Fear River Blueprint will be used as an analysis element when determining preliminary site suitability mapping of potential retrofit sites, developing a novel approach to utilizing stormwater mapping data.

5. **Develop technical writing products**. The Plan will require substantial research and technical writing that can be guided by experienced members of the project team. Technical writing will be conducted by regularly referencing the various materials made available by the state's 319 Grants office, Use Restoration Watershed Coordinator, and the EPA *Handbook for Developing Watershed Plans to Restore and Protect Our Waters*.

The project team has been proactive in their interest in pursuing a watershed restoration plan for the Town of Carolina Beach. This has resulted in the development of the Lower Cape Fear River Blueprint, which identifies the Town of Carolina Beach as a high priority watershed for the development of a watershed plan. The project team is committed to implementing this recommendation for the development of a watershed plan.

The project team recognizes the importance of ensuring that all EPA Nine Minimum Elements are addressed within the restoration plan and will use the Federation's guidebook and template to ensure these are met. The guidebook and template will be used in tandem with the EPA Watershed Handbook and the Watershed Restoration Planning Guidebook, which was designed to ensure that users directly address each element thoroughly. Finally, *A Simplified Guide to Writing Watershed Restoration Plans in North Carolina*, developed by the Triangle J Council of Governments and N.C. Division of Water Resources, checklist will be used as a final check point to ensure that each element is thoroughly addressed.

10a. Related Projects in the Watershed

Please note any other water quality or conservation projects in the same watershed that contribute to the same goals as the proposed project. These could be own or partners' related water quality planning or implementation projects. If few or none, note how this project will fill a need.

As mentioned previously, the watershed restoration plan will implement the recommendation in the Cape Fear basinwide plan, Chapter 24, sub-basin 03-06-24 : "attention and resources should be focused on these waters to prevent additional degradation or facilitate water quality improvement" (page 239). In addition, the recently completed Lower Cape Fear Restoration Blueprint will be used as an analysis element when determining preliminary site suitability mapping of potential retrofit sites, developing a new and novel approach to utilizing stormwater mapping data. Ongoing flooding and inundation concerns on Canal Drive within the Town of Carolina Beach, has led to the creation of a committee tasked with identifying projects that will reduce stormwater impacts in the area.

10b. Relevance to Proposed Project (if applicable)

Help reviewers understand local capacity:

- *How might these projects might benefit or complement the proposed project?*
- *When were they completed?*
- *Who implemented/maintains them?*

The proposed Watershed Restoration Plan will help identify existing sites that are suitable for retrofit and potential enhancement for increased stormwater infiltration. The Town is eager to pursue capital projects, with the assistance of outside funding, to enhance water quality while also reducing stormwater and flooding issues.

11. What funding sources exist to implement the results of the project?

The Town anticipates applying for Clean Water Act Section 319(h) funds to implement the results and recommended actions contained in the restoration plan. In addition, where feasible, the Town will prioritize capital improvements that are recommended in the plans through the yearly budget process.

12. (Optional) Photos or diagrams: *include photos or diagrams if they would supplement project narrative and improve reviewers' understanding of your project.*

13. Funding Requested

Note: If a significant portion of funding is in contractual line, please break down contractual line items in section 15.

Budget Categories (itemize all categories)	Section 205(j)		Non-Federal Match (recommended, but not required)	Total	Justification (Include explanation for each budget line item)
	FY 1	FY 2			
Personnel/Salary	900	600	2,275	3,775	Project management and reporting to include budget management and invoicing; project assistance and project team participation
Fringe Benefits	342	228	1,225	1,795	According to individual rates (FICA, retirement, 401k, unemployment, life insurance, ADD, disability, medical and dental)
Supplies	150	100		250	Report, printing, maps
Equipment					
Travel	39	26		65	Travel for project team meetings, field audit and community meetings, state rate
Contractual	7,322	4881	4,130	16,333	Technical assistance rendered by the North Carolina Coastal Federation, and UNCW GIS consultant
Other					
Total Direct	8,753	5835	7,630	22,218	
Indirect (max. 10% of direct costs, per 40 CFR 35.268)	410	273		683	CFCOG indirect
Annual Totals	9,163	6108	7,630	22,901	
Grand Total	15,271		7,630	22,901	
% of Total Budget	66.70%		33.30%	100%	

14. Match summary (if applicable—recommended, but not required)	
Total Match amount	$7,630
Cash Match	$1,500
Source(s):	Town of Carolina Beach
In-kind Match	$6,130
Source(s):	Carolina Beach staff salary/fringe $3,500; GIS consultant $600 N.C. Coastal Federation Deputy Director salary and fringe 1 week @ $44.13/hr. and 15% fringe $2,030

15. Contractual budget – IF APPLICABLE *If a significant portion of funding is in contractual line, please break down contractual line items here.*					
Budget Categories (itemize all categories)	Section 205(j)		Non-Federal Match (recommended, but not required)	Total	Justification (Include explanation for each budget line item)
	Year 1	Year 2			
Personnel/Salary	11,676		1,765	13,411	Staff resources for technical assistance
Fringe Benefits	1,752		265	2,017	Fringe related to above
Supplies					
Equipment					
Travel	275			275	Travel for Federation members to project team meetings, field audit, and community meetings at state rate
Contractual			600	600	GIS consultant
Other					
Total Direct	13,703		2,630	16,333	
Indirect (max. 10% of direct costs, per 40 CFR 35.268)					
Annual Totals	13,703				
Grand Total	13,703		2,630	16,333	
% of Total Budget	84%		16%	100%	

16. (Only for applicants developing a 9-Element Watershed Restoration Plan) Please indicate below what sources you will use to find or develop the information necessary to meet EPA's 9 Key Elements.	
1	An **identification of the causes and sources** or groups of similar sources that will need to be controlled to achieve the load reductions estimated in the watershed
	• *Watershed characterization*. A review of available current and historical data on potential point and non-point source pollutants within the watershed. The review also includes an analysis of physical, land use, and natural characteristics. • *Tabular formatting*. Distinctive and clear formatting that clearly guides readers to what the stressors and indicators are. Tabular formatting is accompanied by an at length discussion describing the table. Tabular formatting is based on suggestions from the North Carolina Use Restoration Watershed Program and examples found in the EPA Handbook. • *Watershed EZ Tool*. Utilizing this tool, we are able to develop hydrographs of the watershed along with determining the stormwater runoff volume that should be reduced to meet specific goals of the watershed.
2	A **description of the NPS management measures** that will need to be implemented to achieve load reductions as well as to achieve other watershed goals identified in the watershed based plan
	• *Suite of Options*. Within the management portion of the plan we seek to provide a suite of retrofit options regarding ways to manage the NPS sources within the watershed. These options are paired with a list of potential sites, which are initially assessed through field assessments previously described, that future projects over the course of the life of the plan can be implemented. Additionally, the plan will discuss how to calculate the volume of stormwater that is reduced by implementing a retrofit. • *Schedule*. In addition to discussing the suite of options, the retrofits will be formatted in a tabular schedule describing when the retrofits should be implemented.
3	An **estimate of the load reductions** expected for the management measures
	• *Runoff Reduction Scenario Tool and the Watershed EZ Tool*. The load reduction of each retrofit will be estimated utilizing the Runoff Reduction Scenario Tool that is to be used in tandem with the Watershed EZ Tool. These tools can be used to both create scenarios and compare what retrofit strategy may be more impactful, and can be used to estimate the load reduction of a retrofit.
4	An **estimate of the amount of technical and financial assistance needed** associated costs and or sources and authorities that will be relied upon, to implement the plan
	• *Detailed breakdown*. Upon the determination of potential projects and schedule, a detailed breakdown of the specific technical and financial assistance necessary can be determined. Partners involved in the Plan development and Plan implementation will have clearly designated roles as part of the Schedule that is developed.
5	An **information/education component** that will be used to enhance public understanding of the project
	• *Goals and actions*. As part of the Plan's education and outreach (E/O) activities, individual goals and action plan will be developed for the E/O component. This will include a detailed summary of potential costs, needs, monitoring, and discussion of E/O audience and strategy.
6	A **schedule for implementing the NPS management measures** identified in this plan that is reasonably expeditious
	• *Tabular formatting*. To enhance clarity, the schedule is presented in tabular format and includes the following information

	○ Proposed project ○ Partners who will be involved ○ The proposed year that the project should be completed by ○ Maintenance schedule ○ Estimated cost ○ Indicator that tallies the progress of that project (e.g., *# of 3 rain gardens installed*) • *Objectives and Actions*. The schedule is reaffirmed through the objectives and actions, which are incorporated into the schedule.
7	A description of interim, **measurable milestones for determining whether NPS management measures** or other control actions are being implemented
	Term goals. The Plan will contain short-, mid-, and long- term goals. The desire is to develop a 30-year plan that will be evaluated on a scheduled basis to ensure that the direction of the plan still meets the needs of the goals. All milestones will be measurable. For example, reduce stormwater runoff by 25% (1,000,000 gallons) of 4,000,000 gallons through the implementation of stormwater reduction techniques.
8	A set of **criteria that can be used to determine whether loading reductions are being achieved** overtime and substantial progress is being made towards attaining water quality standards
	Measurable evaluation. Utilizing record keeping, various parameters will be observed to determine that loading reductions are being achieved. This includes progress towards meeting loading standards, utilizing the Runoff Reduction Scenario Tool, E/O surveys, and monitoring station data.
9	A **monitoring component** to evaluate the effectiveness of the implementation efforts over time measured against the criteria established under item 8.
	Monitoring measures. The Plan will address the monitoring of indicators, how it will be measured, who will collect the data, and the collection cycle.

If you have questions or need assistance filling out this application, please do not hesitate to contact 205(j) grant administrator Maya Cough-Schulze at (919) 807-6442 or maya.cough-schulze@ncdenr.gov.